

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A non-aqueous electrolytic secondary battery
comprising at least:

a casing comprising a sheet with a thickness of 0.5 mm or less which has a resin layer,

an electrode group having:

a positive electrode,

a negative electrode which contains a material being capable of storing and
releasing lithium ions, and

a separator disposed between the positive electrode and the negative
electrode; and

a non-aqueous electrolytic solution containing at least one non-aqueous solvent and
at least one lithium salt dissolved in said solvent which impregnates said electrode
group;

~~a non-aqueous electrolytic solution containing a non-aqueous solvent(s) and a lithium
salt dissolved in the non-aqueous solvent, with which the electrode group being impregnated,~~
wherein

~~(1) the electrode group is contained in a casing made of a sheet having a resin layer
with a thickness of 0.5 mm or less,~~

(2)

wherein the non-aqueous solvent contains

at least 50% of the total volume of the non-aqueous solvent is γ -butyrolactone,

at least 10% of the total volume of the non-aqueous solvent is ethylene carbonate, and

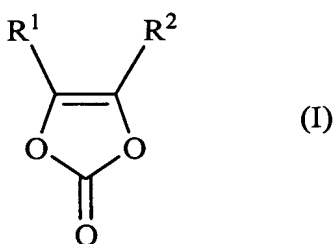
wherein the non-aqueous solvent contains

0.01 to 5% by weight of at least one vinylene carbonate compound represented by the formula (I),

0.01 to 5% by weight of at least one vinylethylene carbonate compound represented by the formula (II), and

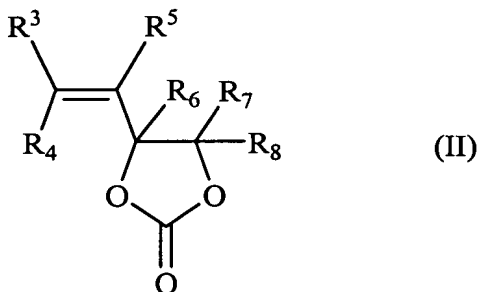
the total amount of the vinylene carbonate compound and the vinylethylene carbonate compound is 0.02 to 6% by weight;

wherein formulas (I) and (II) are:



wherein R₁ and R₂ each independently represent a hydrogen atom or an alkyl group having 1 to 4 carbon atoms,

~~and at least one vinylethylene carbonate compound represented by the formula (II):~~



wherein R₃, R₄ and R₅ each independently represent a hydrogen atom or an alkyl group having 1 to 4 carbon atoms, and R₆, R₇ and R₈ each independently represent a hydrogen atom, an alkyl group having 1 to 4 carbon atoms or an alkenyl group having 2 to 7 carbon atoms;

~~(3) the amount of the vinylene carbonate compound is 0.01 to 5 % by weight based on the total weight of the non-aqueous solvent, the amount of the vinylethylene carbonate~~

~~compound is 0.01 to 5 % by weight based on the total weight of the non aqueous solvent, and the total amount of the vinylene carbonate compound and the vinylethylene carbonate compound is 0.02 to 6 % by weight based on the total weight of the non aqueous solvent, and~~
~~(4) the amount of the γ butyrolactone is 50 % by volume or more based on the total volume of the non aqueous solvent and the amount of the ethylene carbonate is 10 % by volume or more based on the total volume of the non aqueous solvent.~~

Claim 2 (Currently Amended): A non-aqueous electrolytic solution for a secondary battery, where the secondary battery comprises ~~has at least~~:

a casing comprising a sheet with a thickness of 0.5 mm or less which has a resin layer,
an electrode group having a positive electrode,
a negative electrode which contains a material being capable of storing and releasing lithium ions, and

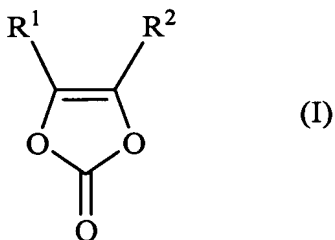
a separator disposed between the positive electrode and the negative electrode, and
a non-aqueous electrolytic solution containing at least one non-aqueous solvent and at least one lithium salt dissolved in said solvent which impregnates said electrode group;
wherein
at least 50% of the total volume of the non-aqueous solvent is γ -butyrolactone,
at least 10% of the total volume of the non-aqueous solvent is ethylene carbonate, and
wherein the non-aqueous solvent contains
0.01 to 5% by weight of at least one vinylene carbonate compound represented by the formula (I),
0.01 to 5% by weight of at least one vinylethylene carbonate compound represented by the formula (II), and

the total amount of the vinylene carbonate compound and the vinylethylene carbonate compound is 0.02 to 6% by weight;

wherein formulas (I) and (II) are:

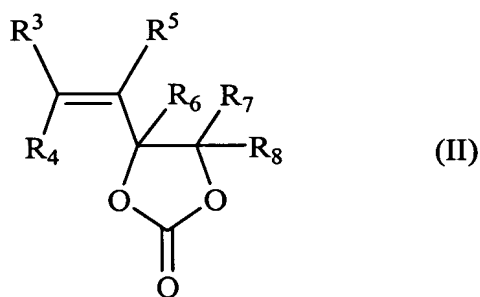
~~the electrode group being contained in a casing made of a sheet having a resin layer with a thickness of 0.5 mm or less; and~~

~~a non-aqueous electrolytic solution comprising a non-aqueous solvent(s) and a lithium salt dissolved in the non-aqueous solvent, with which the electrode group being impregnated, wherein (1) the non-aqueous solvent contains γ -butyrolactone, ethylene carbonate, at least one vinylene carbonate compound represented by the formula (I):~~



wherein R₁ and R₂ each independently represent a hydrogen atom or an alkyl group having 1 to 4 carbon atoms, and

~~at least one vinylethylene carbonate compound represented by the formula (II):~~



wherein R₃, R₄ and R₅ each independently represent a hydrogen atom or an alkyl group having 1 to 4 carbon atoms, and R₆, R₇ and R₈ each independently represent a hydrogen atom, an alkyl group having 1 to 4 carbon atoms or an alkenyl group having 2 to 7 carbon atoms;

~~(2) wherein:~~

~~the amount of the vinylene carbonate compound is 0.01 to 5 % by weight based on the total weight of the non-aqueous solvent,~~

~~the amount of the vinylethylene carbonate compound is 0.01 to 5 % by weight based on the total weight of the non-aqueous solvent, and~~

~~the total amount of the vinylene carbonate compound and the vinylethylene carbonate compound is 0.02 to 6 % by weight based on the total weight of the non-aqueous solvent, and~~

~~(3)~~

~~the amount of the γ butyrolactone is 50 % by volume or more, and~~

~~the amount of the ethylene carbonate is 10 % by volume or more based on the total volume of the non-aqueous solvent.~~

Claim 3 (New): The non-aqueous electrolytic secondary battery of Claim 1, wherein said casing comprises a sheet having a thickness ranging from 0.05 to 0.3 mm.

Claim 4 (New): The non-aqueous electrolytic secondary battery of Claim 1, wherein said casing comprises a sheet having a thickness ranging from 0.05 to 0.15 mm.

Claim 5 (New): The non-aqueous electrolytic secondary battery of Claim 1, wherein the positive electrode comprises an active material selected from the group consisting of at least one of lithium cobalt oxide, lithium nickel oxide and lithium manganese complex oxides.

Claim 6 (New): The non-aqueous electrolytic secondary battery of Claim 1, wherein said non-aqueous solvent contains γ -butyrolactone in an amount of at least 65 to 85% by volume.

Claim 7 (New): The non-aqueous electrolytic secondary battery of Claim 1, wherein said non-aqueous solvent contains 0.1 to 3% of the vinylene carbonate compound of formula (I) and 0.1 to 3% of the vinylethylene carbonate compound of formula (II) based on the weight of the nonaqueous solvent.

Claim 8 (New): The non-aqueous electrolytic secondary battery of Claim 1, wherein said non-aqueous solvent contains vinylene carbonate or 4,5-dimethylvinylene carbonate, or both.

Claim 9 (New): The non-aqueous electrolytic secondary battery of Claim 1, wherein said non-aqueous solvent contains at least one of 4-vinylethylene carbonate, 4-methyl-4-vinylethylene carbonate, or 4,5-divinylethylene carbonate.

Claim 10 (New): The non-aqueous electrolytic solvent of Claim 2, which contains γ -butyrolactone in an amount of at least 65 to 85% by volume.

Claim 11 (New): The non-aqueous electrolytic solvent of Claim 2, wherein said non-aqueous solvent contains 0.1 to 3% of the vinylene carbonate compound(s) of formula (I), and wherein said compound of formula (I) is vinylene carbonate, or 4,5-dimethylvinylene carbonate, or both.

Claim 12 (New): The non-aqueous electrolytic solvent of Claim 2,
wherein said non-aqueous solvent contains 0.1 to 3% of the vinylethylene carbonate
compound(s) of formula (II) and,
wherein said compound(s) of formula (II) is selected from the group consisting of 4-
vinylethylene carbonate, 4-methyl-4-vinylethylene carbonate, or 4,5-divinylethylene
carbonate.

13 (New): The non-aqueous electrolytic solvent of Claim 2, which contains 0.1 to 3%
of the vinylene carbonate compound of formula (I) and 0.1 to 3% of the vinylethylene
carbonate compound of formula (II) based on the weight of the nonaqueous solvent.